REMARKS

The specification has been amended to acknowledge government funding.

Claim 1 has been amended as indicated above. The amendment to claim 1 recites subject matter disclosed throughout the specification, for example in Figs. 1A and 1B and on pages 4, 8-12, and 25-27. Claims 4-6, which depend on claim 1, have also been correspondingly amended to provide proper antecedent basis. No new matter has been added.

Claims 1-10, 73, and 74 remain pending in the application.

Rejection of Claims 1, 3, 4, 7, and 8 Under 35 U.S.C. §102(b)

Claims 1, 3, 4, 7, and 8 have been rejected under 35 U.S.C. §102(b) as being anticipated by Bosslet, *et al.*, U.S. Patent No. 5,643,731 ("Bosslet"). The Office Action asserts that Bosslet teaches covalently attaching "one of the pair of – 'leucine zipper' [sic] to the solid phase." The Office Action infers that this teaching anticipates the rejected claims.

Applicants respectfully disagree. Because Bosslet does not appear to disclose or suggest an antibody or any other protein fragment that has a terminus forming a covalent bond with a linker molecule covalently attached to a solid support, it cannot anticipate independent claim 1. The Office Action states that Bosslet teaches that the "leucine zipper serves as a linker to connect an antibody covalently via [a] maleimide group." However, claim 1 as currently amended recites that a protein or protein fragment (e.g. the antibody of Bosslet) forms a covalent bond with a linker molecule, which linker molecule is itself covalently attached to the solid support. By contrast, as can be seen in Fig. 1 of Bosslet, the antibody is not covalently bonded with a linker molecule that is, in turn, covalently attached to a solid support. Instead, the antibody is immobilized on the surface through an a linker comprising a plurality of molecules, i.e. two zipper peptides (i.e., *c-Jun* and *v-Fos*). The interaction between the zipper peptides is not covalent. For instance, Bosslet states that "binding of, for example, the fos gene product to the jun gene product takes place with the formation of a heterodimer of exceptional strength" (column 3, lines 1-3, emphasis added). Those of ordinary skill in the art will recognize that heterodimers are composed of two or more different molecules. Thus, the antibody in Bosslet is not covalently bonded with a linker molecule that is covalently attached to a solid support, as recited in claim 1. Indeed, Bosslet actually teaches away from covalently bonding an antibody to a linker molecule that is covalently attached to a solid support, as the immunoassays of Bosslet

would be largely nonfunctional if the antibodies were not able to interact with both an antigen and the solid surface via the non-covalent interaction between *c-Jun* and *v-Fos*.

Thus, Bosslet does not anticipate claim 1, and it is respectfully requested that the rejection of claim 1 be withdrawn. Claims 3, 4, 7, and 8 depend, either directly or indirectly, from claim 1, and it is respectfully requested that the rejection of these claims also be withdrawn for at least the above-mentioned reasons.

Rejection of Claims 2, 5, and 6 Under 35 U.S.C. §103(a)

Claims 2, 5, and 6 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Bosslet in view of Sakata, *et al.*, European Patent No. 0 140 489 ("Sakata"), and also over Bosslet in view of Bagchi *et al.*, U.S. Patent No. 4,855,219 ("Bagchi").

Claims 2, 5, and 6 depend, either directly or indirectly, from claim 1. According to the Office Action, the basis for the rejection is that Bosslet teaches a system meeting all of the limitations of claim 1, except for the limitations added in claims 2, 5, and 6. The Office Action states that either Sakata or Bagchi discloses such limitations, and that it would be obvious to combine Bosslet with either Sakata or Bagchi to add such additional features to the invention recited in claim 1.

For at least the reasons explained above with respect to the rejection under §102(b) in view of Bosslet, the foundation for the rejection under §103(a) (i.e., that Bosslet teaches all of the limitations of claim 1) is believed to have been overcome. Accordingly, while Applicants do not concede that there would have been any motivation to combine Bosslet with either Sakata or Bagchi in the manner suggested in the Office Action, or that either Sakata or Bagchi discloses or suggests any of the additional limitations of the claims rejected on the present basis, the present rejection cannot stand. Thus, withdrawal of this rejection or claims 2, 5, and 6 is respectfully requested.

Rejection of Claims 9, 10, 73 and 74 Under 35 U.S.C. §103(a)

The Examiner rejected claims 9, 10, 73 and 74 under 35 U.S.C. §103(a) as being unpatentable over Bosslet in view of MacBeath, *et al.*, *J. Am. Chem. Soc.*, 1999, 121: 7967-7968 ("MacBeath").

At the outset, Applicants do not concede that MacBeath is prior art to the claimed invention. Applicants reserve the right to establish an invention date for the claimed invention that is on or before the date in 1999 when Macbeath became publicly available, which is the effective date of MacBeath relied on by the Patent Office.

Claims 9, 10, 73 and 74 depend, either directly or indirectly, from claim 1. According to the Office Action, the basis for the rejection is that Bosslet teaches a system meeting all of the limitations of claim 1, except for the limitations added in claims 9, 10, 73 and 74. The Office Action states that MacBeath discloses such limitations, and that it would be obvious to combine Bosslet with MacBeath to add such additional features to the invention recited in claim 1.

For at least the reasons explained above with respect to the rejection under §102(b) in view of Bosslet, the foundation for the rejection under §103(a) (i.e., that Bosslet teaches all of the limitations of claim 1) is believed to have been overcome. Accordingly, while Applicants do not concede that there would have been any motivation to combine Bosslet with MacBeath in the manner suggested in the Office Action, or that MacBeath discloses or suggests any of the additional limitations of the claims rejected on the present basis, the present rejection cannot stand. Thus, withdrawal of this rejection or claims 2, 5, and 6 is respectfully requested.

CONCLUSION

In view of the foregoing remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicants' representatives at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicants hereby request any necessary extension of time.

If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Respectfully submitted,

By: _____

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